

**AMENDMENTS TO THE CLAIMS**

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

**Listing of the Claims**

1-50. (Canceled)

51. (Currently Amended) An optical disc ~~computer-readable medium~~ having a data structure for managing reproduction of menu data, comprising:

a video data area storing one or more playback units of video data;

a menu data area storing a menu data file, the menu data file including a plurality of object units for recording thumbnail pictures, each thumbnail picture corresponding to one of the playback units, each thumbnail picture being recorded in one of the object units; and

a menu management area storing menu management information, the menu management information including information indicating an actual data size of each thumbnail picture, wherein,

padding data is recorded between thumbnail pictures, the padding data being recorded based on the information indicating an actual data size of each thumbnail picture ~~following the actual data of at least one thumbnail picture,~~ and

the thumbnail pictures in the menu data file are reproduced based on the menu management information.

52. (Currently Amended) The optical disc ~~computer-readable medium~~ of claim 51, wherein the menu management information includes a starting address and an ending address of each thumbnail picture to indicate the actual data size of each thumbnail picture.

53. (Currently Amended) The optical disc ~~computer-readable medium~~ of claim 52, wherein a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data file.

54. (Currently Amended) A method of reproducing menu data recorded on a computer-readable medium, the method comprising:

reading menu management information, a menu data file, and one or more playback units of video data from the computer-readable medium, the menu data file including a plurality of object units for recording thumbnail pictures, each thumbnail picture corresponding to one of the playback units, each thumbnail picture being recorded in one of the object units, the menu management information including information indicating an actual data size of each thumbnail picture; and

reproducing at least one thumbnail picture in the menu data file based on the menu management information,

wherein ~~padding data is recorded~~ between thumbnail pictures is treated as padding data based on the information indicating an actual data size of each thumbnail picture ~~following the actual data of at least one thumbnail picture.~~

55. (Previously Presented) The method of claim 54, wherein the menu management information includes a starting address and an ending address of each thumbnail picture to indicate the actual data size of each thumbnail picture.

56. (Previously Presented) The method of claim 55, wherein a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data file.

57. (Currently Amended) A reproduction apparatus, comprising:  
a reproducing unit configured to read data recorded on a computer-readable recording medium; and

a controller configured to control the reproducing unit to read menu management information, a menu data file, and one or more playback units of video data from the computer-readable medium, the menu data file including a plurality of object units for recording thumbnail pictures, each thumbnail picture corresponding to one of the playback units, each thumbnail picture being recorded in one of the object units, the menu management information including information indicating an actual data size of each thumbnail picture; and

a decoder configured to decode at least one thumbnail picture in the menu data file based on the menu management information,

wherein ~~padding~~ data is recorded between thumbnail pictures is treated as padding data based on the information indicating an actual data size of each thumbnail picture following the actual data of at least one thumbnail picture.

58. (Previously Presented) The apparatus of claim 57, wherein the controller controls the reproducing unit to read the menu management information including a starting address and an ending address of each thumbnail picture to indicate the actual data size of each thumbnail picture.

59. (Previously Presented) The apparatus of claim 58, wherein a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data file.

60. (Currently Amended) A method of recording a data structure for managing reproduction of menu data on a computer-readable medium, the method comprising:

recording one or more playback units of video data in a video data area of the computer-readable medium,

recording a menu data file in a menu data area of the computer-readable medium, the menu data file including a plurality of object units for recording thumbnail pictures, each thumbnail picture corresponding to one of the playback units, each thumbnail picture being recorded in one of the object units; and

recording menu management information including information indicating an actual data size of each thumbnail picture,

wherein padding data is recorded between thumbnail pictures, the padding data being recorded based on the information indicating an actual data size of each thumbnail picture ~~following the actual data of at least one thumbnail picture.~~

61. (Previously Presented) The method of claim 60, wherein the menu management information includes a starting address and an ending address of each thumbnail picture to indicate the actual data size of each thumbnail picture.

62. (Previously Presented) The method of claim 61, wherein a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data file.

63. (Currently Amended) A recording apparatus, comprising:  
a recording unit configured to record data on a computer-readable recording medium; and

a controller configured to control the recording unit to record one or more playback units of video data in a video data area of the computer-readable medium, the controller configured to record a menu data file in a menu data area of the computer-readable medium, the menu data file

including a plurality of object units for recording thumbnail pictures, each thumbnail picture corresponding to one of the playback units, each thumbnail picture being recorded in one of the object units, and the controller configured to record menu management information including information indicating an actual data size of each thumbnail picture,

wherein padding data is recorded between thumbnail pictures, the padding data being recorded based on the information indicating an actual data size of each thumbnail picture ~~following the actual data of at least one thumbnail picture.~~

64. (Previously Presented) The apparatus of claim 63, wherein the controller controls the recording unit to record the menu management information including a starting address and an ending address of each thumbnail picture to indicate the actual data size of each thumbnail picture.

65. (Previously Presented) The apparatus of claim 64, wherein a number of starting and ending address pairs indicates the number of the thumbnail pictures stored in the menu data file.

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**END OF CLAIM LISTING**